

Grade 6 Science Curriculum revised July 2011

<i>Process Skills — How is scientific knowledge created and communicated?</i>					
Core Science Curriculum Framework	Grade-Level Concepts <i>Students should understand that...</i>	Grade-Level Expectations <i>Students should be able to...</i>	CMT Expected Performances	Activities	Assessments & Resources
<p>Monarch Unit (Process Skills, Inquiry, Ecology)</p> <p>State of Connecticut Content Standards:</p> <p>SCIENTIFIC INQUIRY</p> <p>Essential Question: How does the scientific inquiry process help scientists to do their work?</p>	<p>Scientific inquiry is a thoughtful and coordinated attempt to search out, describe, explain and predict natural phenomena.</p> <p>Scientific inquiry progresses through a continuous process of questioning, data collection, analysis and interpretation.</p> <p>Scientific inquiry requires the sharing of findings and ideas for critical review by colleagues and other scientists.</p>	<p><i>State of Connecticut Expected performances:</i></p> <p>CINQ1. Identify questions that can be answered through scientific investigation.</p> <p>CINQ3. Design and conduct appropriate types of scientific investigations to answer different questions.</p> <p>CINQ4. Identify independent and dependent variables, and those variables that are kept constant, when designing an experiment.</p> <p>CINQ5. Use appropriate tools and techniques to make observations and gather data.</p> <p>CINQ6. Use mathematical operations to analyze and interpret the data.</p> <p>CINQ7. Identify and present relationships between variables in appropriate graphs.</p> <p>CINQ8. Draw conclusions and identify sources of error.</p> <p>CINQ9. Provide explanations to investigated problems or questions.</p> <p>CINQ10. Communicate about science in different formats, using relevant science vocabulary, supporting evidence and clear logic.</p> <p>Differentiate between qualitative & quantitative observations.</p>		<p>Activity - Mystery Cube</p> <p>Demonstration - A Burning Question (making inferences based on observations)</p> <p>Lab - Monarchs: Daily observational journal</p> <p>Activity/Lab - Confection Connection</p> <p>Lab – What do Monarch Caterpillars Eat?</p> <p>Lab – Where is My Food?</p> <p>Lab – How Does Temperature Affect Time in the Pupa Stage?</p> <p>Lab – When Do Monarchs Disappear from View or Milkweed Floss Lifejacket Experiment (Writing a Lab Report: question, hypothesis, procedure, data collection, graphing, conclusion)</p>	<p>ASSESSMENT: Monarch Observation Assessment</p> <p>Process Skills Quiz</p> <p>Process Skills Quia activity</p> <p>Lab Report/Poster Rubric</p> <p>RESOURCES: Video - <u>Monarch Migration: A Visual Odyssey</u></p> <p>Teaching Guide – <u>Monarchs in the Classroom Curriculum for Grades 3-6</u></p> <p>Teaching Guide – <u>Monarchs in the Classroom Curriculum for Middle School</u></p> <p>Teaching Guide – <u>Journeys: Learning Activities from the Monarch Teaching Network</u></p> <p>Website - <u>http://www.eirc.org/website/global-connection/monarch-teacher-network/</u></p> <p>Website – <u>www.learner.org/jnorth</u></p> <p>Website - <u>http://www.monarchwatch.org/</u></p> <p>Text – <u>Has a Cow Saved Your Life?</u> (Jenner, scientific method)</p>

<i>Matter and Energy in Ecosystems — How do matter and energy flow through ecosystems?</i>					
6.2 — An ecosystem is composed of all the populations that are living in a certain space and the physical factors with which they interact.					
Core Science Curriculum Framework	Grade-Level Concepts <i>Students should understand that...</i>	Grade-Level Expectations <i>Students should be able to...</i>	CMT Expected Performances	Activities	Assessments & Resources
<p>6.2.a. Populations in ecosystems are affected by biotic factors, such as other populations, and abiotic factors, such as soil and water supply.</p> <p>6.2.b. Populations in ecosystems can be categorized as producers, consumers and decomposers of organic matter.</p>	<p>GRADE-LEVEL CONCEPT 6.2.a.</p> <p>1. Ecosystems are complex interactions among living things and the features of the environment they inhabit. The environmental (abiotic) features of an environment determine the living (biotic) things that can survive there. Environmental features include things such as soil, minerals, climate, water, sunlight, and wind.</p> <p>2. Interactions among biotic and abiotic factors support the flow of energy and cycling of materials such as oxygen, carbon dioxide and nitrogen in ecosystems.</p> <p>3. Soil is a mixture of materials that includes weathered rocks and decomposed organic material, as well as air and water. Soils vary from place to place. The composition of soils affects how air and water move through the soil, and this influences the varieties of plants that can grow in it.</p> <p>4. Water is a mixture of materials that includes dissolved oxygen and minerals as well as suspended sediments and debris.</p> <p>5. The quality and quantity of soil and water in an ecosystem affect the numbers and variety of plants and animals.</p> <p>6. Plants and animals within an ecosystem interact in various ways as they compete for limited resources (e.g., food, water, living space). Relationships among organisms can be beneficial or harmful to one or both organisms.</p> <p>7. Populations of species within an ecosystem are affected by the availability and quality of resources such as food, water, living space, or mates.</p> <p>8. Predator-prey relationships contribute to controlling populations in an ecosystem. Increases or decreases in prey populations result in corresponding increases or decreases in predator populations. A balanced population of predators and prey increases the variety of species (biodiversity) in an area.</p> <p>9. Populations can be reduced or increased by environmental changes caused by nature (e.g., droughts, forest fires or disease) and by humans (climate change, land development or overhunting).</p> <p>10. All organisms cause changes to the environment in which they live. Some of the changes caused by organisms can be helpful to the ecosystem and others can be harmful.</p> <p>GRADE-LEVEL CONCEPT 6.2.b.</p> <p>1. The sun is the main source of energy on Earth. During photosynthesis, green plants use the energy of sunlight to change the elements in carbon dioxide (CO2) and water (H2O) into materials (simple carbohydrates) that are a source of energy for the plant to carry on its life processes.</p> <p>2. Photosynthesis is affected by abiotic factors such as amount of sunlight, availability of water and air temperature.</p>	<p>1. Explain the interdependence between biotic and abiotic factors within a given ecosystem.</p> <p>2. Design and conduct a scientific investigation to explore the porosity and permeability of soils and their ability to support different plant life.</p> <p>3. Present an oral or written argument to support the claim that “The sun is the source of energy to support life on Earth.”</p> <p>4. Investigate and report on the effects of abiotic factors on a plant’s ability to carry out photosynthesis.</p> <p>5. Compare and contrast the energy transfers and matter cycling among producers, consumers and decomposers in varied Connecticut ecosystems.</p> <p>6. Create and interpret graphs that illustrate relationships between predator-prey populations over time.</p> <p>7. Evaluate the impacts of environmental changes caused by nature and by humans.</p>	<p>C4. Describe how abiotic factors, such as temperature, water and sunlight, affect the ability of plants to create their own food through photosynthesis.</p> <p>C5. Explain how populations are affected by predator-prey relationships.</p> <p>C6. Describe common food webs in different Connecticut ecosystems.</p>	<p>Lab - State of CT GLE – Dig in Lab I & II</p> <p>Lab – Plant Growth & Abiotic Factor Inquiry</p> <p>Simulation – Spinning the Ecoweb (abiotic factors, biotic factors, ecosystem, interdependence)</p> <p>Simulation – Oh Deer! (populations, limiting factors)</p> <p>Simulation – Predator Prey</p> <p>Field Study – Pond & Stream Investigation Day (what does a trout need to survive?)</p> <p>Webquest – Sciencspot.net (biomes)</p> <p>Project – Biome/Food Web Poster (biomes, food web, food chain, abiotic, biotic, etc.)</p> <p>Environmental Classroom Debate – (current environmental topics)</p> <p>Simulation Card Game - Sea Connections (food chains)</p> <p>Simulation Card Game – Good Buddies (symbiosis)</p> <p>Macroinvertebrate Mayhem – <u>Project Wet</u> p. 322</p>	<p>ASSESSMENT:</p> <p>Energy Flow Quiz</p> <p>Dig in Inquiry</p> <p>Biome/Food Web Poster Rubric</p> <p>RESOURCES:</p> <p>Text: <u>Prentice Hall Science Explorer: Environmental Science</u></p> <p>Video – <u>Science of Soil</u></p> <p>Video – <u>Bill Nye the Science Guy: Food Webs</u></p> <p>Video – <u>Bill Nye the Science Guy: Populations</u></p> <p>Activity Resource – Project Wild</p> <p>Internet Resource – Brain pop</p> <p>Internet Resource – Sciencspot.net</p> <p>Internet Resource – Sea Connections <u>http://www.smithsonianeducation.org/educators/lesson_plans/ocean/acrobat/connect.pdf</u></p>

	<p>3. Green plants are the producers in an ecosystem; they rely directly on sunlight to produce the materials they use for energy.</p> <p>4. Plants are a source of energy (food) and nutrients for animals that consume them. Energy passed to consumers that eat plants came indirectly from the sun as a result of photosynthesis. Some animals consume plants, and other animals consume animals that eat plants in predator-prey relationships.</p> <p>5. Consumers are adapted for eating different foods: <i>herbivores</i> are consumers that eat only plants; <i>carnivores</i> are consumers that eat only animals; <i>omnivores</i> are consumers that eat both plants and animals.</p> <p>6. Decomposers (mainly bacteria and fungi) consume dead plants and animals and break down organic materials, returning nutrients to the environment for reuse by other organisms.</p> <p>7. Food chains are models that show how materials and energy are transferred from producers to different levels of consumers in an ecosystem. The basis of every food chain is the energy stored in green plants.</p> <p>8. Food webs are models that show the complex variety of energy sources available to most consumers in an ecosystem.</p> <p>9. Connecticut has forest and park ecosystems, as well as fresh water and marine ecosystems that include a variety of plants and animals.</p> <p>10. An energy pyramid is a model that shows the availability and use of energy in an ecosystem. A large number of producers and primary consumers support a smaller number of higher-level consumers due to the consumption and loss of energy at each consumer level.</p> <p>KEY CONCEPT WORDS: ecosystem, interdependence, biodiversity, organism, population, biotic factor, abiotic factor, food chain, photosynthesis, producer, consumer, herbivore, carnivore, omnivore, food web, predator, prey</p>				
--	--	--	--	--	--

<i>Science and Technology in Society — How do science and technology affect the quality of our lives?</i>					
6.4 — Water moving across and through earth materials carries with it the products of human activities. <i>This content standard is an application of the concepts in content standard 6.2 and should be integrated into the same learning unit.</i>					
Core Science Curriculum Framework	Grade-Level Concepts <i>Students should understand that...</i>	Grade-Level Expectations <i>Students should be able to...</i>	CMT Expected Performances	Activities	Assessments & Resources
6.4.a Most precipitation that falls on Connecticut eventually reaches Long Island Sound.	<i>(numbers refer to state document concepts)</i> 1. Water is essential for life and is a distinguishing feature of Earth among the planets in our solar system. Humans and other organisms use water in various ways. 2. The surface of Earth is largely covered with water, most of which is saltwater found in oceans. Only freshwater is drinkable, and it is found on the land (surface water), beneath the ground (groundwater), and frozen in glaciers. 4. Some water that falls to Earth as precipitation soaks into the ground, some evaporates almost immediately, and some moves across earth’s surfaces filling streams, rivers and reservoirs. Factors affecting whether water seeps into the ground include the amount of rainfall, the length of time it falls, the permeability of the ground surface and subsurface, the saturation of the soil, and the steepness (slope) of the land. 5. Water moving beneath the earth’s surface is influenced by size of and spaces between the particles in rock and soils. 6. Water moving across the earth’s surface is affected by the shape and slope of the land and the properties of the surface materials it encounters. The area draining into a river system or other body of water is a watershed. Folds and faults in Connecticut’s landform cause water to move generally from north to south, eventually draining into Long Island Sound. 7. Water moving through a watershed picks up, suspends or dissolves various substances produced by nature and by human activities. The quality and usability of water depend on what materials have been picked up, carried and concentrated in the water. 8. Water quality is important to support a variety of aquatic life and for human consumption. Water quality is evaluated by measuring indicators such as levels of dissolved oxygen, pH, turbidity and the presence of other dissolved substances. Substances such as heavy metals (e.g., lead and aluminum), sulfur, fertilizers, and road salt are pollutants that may be dissolved in surface water or ground water, making the water unhealthy. 9. Water entering Long Island Sound carries with it the products of human use. These pollutants negatively impact the aquatic life, commercial and recreational uses of the Sound. 10. Point source pollution, such as untreated sewage, industrial or recreational waste, can be discharged directly into the Sound if it is not regulated and controlled. 11. Nonpoint source pollution is difficult to trace or control because it originates across the large watershed area that drains into Long Island Sound. A major contaminant reaching Long Island Sound by way of	1. Discuss and chart the reasons why water is essential for life. 3. Research the differences in quantities between fresh water (solid and liquid) and salt water covering the earth’s surface and report on the impact to humans. 4. Investigate and explain in writing how substances, both harmful and beneficial, dissolve in and are carried by surface and ground water. 5. Use appropriate maps to locate and identify the major watersheds that drain into Long Island Sound and analyze how the topography influences the way water moves in the Long Island Sound watershed. 6. Research and evaluate in writing the effects of common point and nonpoint water pollutants in Connecticut. 7. Compare and contrast the general structures, processes and limitations of a septic system to a secondary wastewater treatment plant. 8. Debate the effectiveness of a law designed to protect water resources.	C10. Explain the role of septic and sewage systems on the quality of surface and ground water. C11. Explain how human activity may impact water resources in Connecticut, such as ponds, rivers and the Long Island Sound ecosystem.	Enviroscape Demonstration – Model of a watershed (run off, point source pollution, non-point source pollution, etc.) Debate - the effectiveness of a law designed to protect water resources Under Construction – possible field trip to local water treatment plant Long Island Watershed Model – students use reference maps of CT to design and build a topographic model and simulate pollution carried by runoff flowing into LI Sound. (“Branching Out” p. 129 <u>Project Wet</u>) Field Study – Pond & Stream Investigation Day (what does a trout need to survive?) Simulation – Pollution Solution (cleaning up oil spills) Lab – Sparkling Water Lab (What happens to water when it runs down the drain) – <u>Project Wet</u> p. 348 Activity/Lab – A Drop in the Bucket <u>Project Wet</u> p. 238	RESOURCES: Text: <u>Prentice Hall Science Explorer: Environmental Science</u> Activity Resource: <u>Project Wet: A K-12 Curriculum & Activity Guide</u> Internet Resource – Pollution Solution http://www.smithsonianeducation.org/educators/lesson_plans/ocean/pollution/essay.html ASSESSMENTS: Debate Rubric Long Island Watershed Model Rubric Pollution Final Assessment

	<p>watersheds is nitrogen.</p> <p>12. Drinking water may come from groundwater sources accessed by drilling wells, or from surface water reservoirs.</p> <p>13. People’s use of water adds waste products and harmful materials to the water which must be removed before returning the water to the environment. Wastewater can be purified using various physical, biological and chemical processes.</p> <p>14. Septic systems use settling and bacterial digestion to break down wastes in a holding tank; then the water is further purified as it is spread across a leaching field and percolates through layers of soil.</p> <p>15. Sewage treatment facilities are required in densely populated areas. Sewage treatment facilities use multiple filtration, biological and chemical methods to purify water before returning the water to the environment.</p> <p>16. Laws, regulations and remedial actions have helped to protect and restore water resources.</p> <p>KEY CONCEPT WORDS: surface water, ground water, fresh water, salt water, pollutant, watershed, point source pollution, nonpoint source pollution, well, septic system, wastewater</p>				
--	--	--	--	--	--

<i>Energy Transfer and Transformations — What is the role of energy in our world?</i>					
7.1 — Energy provides the ability to do work and can exist in many forms.					
Core Science Curriculum Framework	Grade-Level Concepts <i>Students should understand that...</i>	Grade-Level Expectations <i>Students should be able to...</i>	CMT Expected Performances	Activities	Assessments & Resources
<p>7.1.a. Work is the process of making objects move through the application of force.</p> <p>7.1.b. Energy can be stored in many forms and can be transformed into the energy of motion.</p>	<p>GRADE-LEVEL CONCEPT 7.1.a.</p> <p>1. In order for an object to change its motion, a push/pull (force) must be applied over a distance.</p> <p>2. Work is a scientific concept that expresses the mathematical relationship between the amount of force needed to move an object and how far it moves. For work to be done, a force must be applied for a distance in the same direction as the motion. An object that does not move has no work done on it, even if forces are being applied.</p> <p>3. Work (measured in joules) is calculated by multiplying the force (measured in newtons) times the distance (measured in meters). When an object is lifted, the work done is the product of the force of gravity (weight) times the height the object is lifted. The amount of work done is increased if more force is applied or if the object is moved a greater distance.</p> <p>4. Simple machines can be used to do work. People do “input” work on a simple machine which, in turn, does “output” work in moving an object. Simple machines are not used to change the amount of work to move or lift an object; rather, simple machines change the amount of effort force and distance for the simple machine to move the object.</p> <p>5. Simple machines work on the principle that a small force applied over a long distance is equivalent work to a large force applied over a short distance.</p> <p>6. Some simple machines are used to move or lift an object over a greater output distance (snow shovel), or change direction of an object’s motion, but most are used to reduce the amount of effort (input force) required to lift or move an object (output force).</p> <p>7. An inclined plane is a simple machine that reduces the effort force needed to raise an object to a given height. The effort force and distance and output force and distance depend on the length and height (steepness) of the inclined plane.</p> <p>8. A pulley is a simple machine that reduces the effort force needed to lift a heavy object by applying the force through a greater distance (pulling more rope through the pulley). The effort force and distance, output force and distance, and direction of motion all depend on the number of pulleys and their position.</p> <p>9. A lever is a simple machine that reduces the effort force needed to lift a heavy object by applying the force at a greater distance from the fulcrum of the lever. The effort force and distance, output force and distance, and direction of motion all depend on the position of the fulcrum in relationship to the input and output forces.</p> <p>10. The mechanical advantage of a simple machine indicates how useful</p>	<p>1. Calculate work done on an object as force or distance varies.</p> <p>2. Explain in writing how the six simple machines make work easier but do not alter the amount of work done on an object.</p> <p>3. Determine ways to modify a simple machine (inclined plane, pulley and lever) to improve its mechanical advantage.</p> <p>4. Defend the statement, “Work output of a machine is always less than work input because of energy lost due to friction.”</p> <p>5. Design and create a working compound machine from several simple machines.</p> <p>6. Use a diagram or model of a moving object (roller coaster, pendulum, etc.) to describe the conversion of potential energy into kinetic energy and vice versa.</p> <p>7. Discuss different forms of energy and describe how they can be converted from one form to another for use by humans (e.g., thermal, electrical, light, chemical, mechanical).</p> <p>8. Trace energy conversions that occur in the human body.</p>	<p>C12. Explain the relationship among, force, distance and work, and use the relationship ($W = F \times D$) to calculate work done in lifting heavy objects.</p> <p>C13. Explain how simple machines, such as inclined planes, pulleys and levers, are used to create mechanical advantage.</p> <p>C14. Describe how different types of stored (potential) energy can be used to make objects move.</p>	<p>Project – Design & Build a Compound Machine</p> <p>Labs:</p> <p>Roller Coaster – Potential & Kinetic Energy Conversions</p> <p>Roller Coaster Simulation (computer) Potential & Kinetic Energy Conversions</p> <p>Screw – paper simulation of pitch</p> <p>Wedge – Potato Lab</p> <p>Inclined Plane – Length Lab (moving a mini pool table), Surface lab (friction)</p> <p>Pulley – Lifting a Mini Pool Table</p> <p>Lever – Levers in Action</p>	<p>ASSESSMENT:</p> <p>Simple Machines Performance Assessment</p> <p>Simple Machines Performance Quiz</p> <p>RESOURCES:</p> <p>Video – Bill Nye the Science Guy: Motion</p> <p>Video – Bill Nye the Science Guy: Energy</p> <p>Video – Physical Science in Action: Simple Machines</p> <p>Video – Eureka: Inclined Plane, Lever, Pulley, etc.</p> <p>Text: Prentice Hall Science Explorer: Motion, Forces & Energy</p> <p>Note: Materials for simple machine labs: pulleys, wedges, screws, levers, inclined planes and other materials are stored in room 206</p>

	<p>the machine is for performing a given task by comparing the output force to the input force. The mechanical advantage is the number of times a machine multiplies the effort force. The longer the distance over which the effort force is applied, the greater the mechanical advantage of the machine.</p> <p>11. The mechanical advantage of a machine can be calculated by dividing the resistance force by the effort force. Usually, the resistance force is the weight of the object in newtons.</p> <p>12. Simple machines always produce less work output than work put in because some motion energy is converted to heat and sound energy by friction.</p> <p>GRADE-LEVEL CONCEPT 7.1.b.</p> <p>1. Energy is indirectly observed as the ability to exert pulls or pushes.</p> <p>2. Potential energy is the capacity for doing work that a body possesses because of its position or condition. It is evident as gravitational potential energy (an object about to roll down a hill), elastic potential energy (a stretched rubber band) or chemical potential energy (carbohydrates in foods).</p> <p>3. Kinetic energy is energy a body possesses because it is in motion.</p> <p>4. Energy can be changed (transformed) from one form to another. For example, potential chemical energy of foods, which is often measured in calories, is transformed by cells into heat, electrical and kinetic energy used in the body.</p> <p>5. When energy is transformed, the total amount of energy stays constant (is conserved).</p> <p>6. Work is done to lift an object, giving it gravitational potential energy (weight x height). The gravitational potential energy of an object moving down a hill is transformed into kinetic energy as it moves, reaching maximum kinetic energy at the bottom of the hill.</p> <p>7. Some kinetic energy is always transformed into heat by friction; therefore, the object will never reach the same height it started from again without added energy.</p> <p>KEY CONCEPT WORDS: force, friction, gravity, weight, newton, scale, work, joule, effort (input) force, output force, simple machine, lever, fulcrum, pulley, inclined plane, mechanical advantage, energy, potential energy, kinetic energy, energy transformation, conservation of energy</p>				
--	--	--	--	--	--

<i>Energy in the earth’s systems — How do external and internal sources of energy affect the earth’s systems?</i>					
7.3 — Landforms are the result of the interaction of constructive and destructive forces over time.					
Core Science Curriculum Framework	Grade-Level Concepts <i>Students should understand that...</i>	Grade-Level Expectations <i>Students should be able to...</i>	CMT Expected Performances	Activities	Assessments & Resources
<p>7.3.a. Volcanic activity and the folding and faulting of rock layers during the shifting of the earth’s crust affect the formation of mountains, ridges and valleys.</p> <p>7.3.b. Glaciation, weathering and erosion change the earth’s surface by moving earth materials from place to place.</p>	<p>GRADE-LEVEL CONCEPT 7.3.a.</p> <p>1. Earth’s surface features, such as mountains, volcanoes and continents, are the constantly changing result of dynamic processes and forces at work inside the earth.</p> <p>2. The solid Earth has a core, mantle and crust, each with distinct properties.</p> <p>3. Earth’s crust is broken into different “tectonic plates” that float on molten rock and move very slowly. Continental drift is driven by convection currents in the hot liquid mantle beneath the crust.</p> <p>4. The presence of plant and animal fossils of the same age found around different continent shores, along with the matching coastline shapes of continental land masses, provides evidence that the continents were once joined.</p> <p>5. Tectonic plates meet and interact at divergent, convergent or transform boundaries. The way in which the plates interact at a boundary affects outcomes such as folding, faulting, uplift or earthquakes.</p> <p>6. The folding and faulting of rock layers during the shifting of the earth’s crust causes the constructive formation of mountains, ridges and valleys.</p> <p>7. Mountain formation can be the result of convergent tectonic plates colliding, such as the Appalachians and the Himalayas; mountains may also be formed as a result of divergent tectonic plates moving apart and causing rifting as in East Africa or Connecticut.</p> <p>8. Most volcanoes and earthquakes are located at tectonic plate boundaries where plates come together or move apart from each other. A geographic plot of the location of volcanoes and the centers of earthquakes allows us to locate tectonic plate boundaries.</p> <p>9. The geological makeup of Connecticut shows evidence of various earth processes, such as continental collisions, rifting, and folding that have shaped its structure</p> <p>GRADE-LEVEL CONCEPT 7.3.b.</p> <p>1. Earth’s surface is constantly being shaped and reshaped by natural processes. Some of these processes, like earthquakes and volcanic eruptions, produce dramatic and rapid change. Others, like weathering and erosion, usually work less conspicuously over longer periods of time.</p> <p>2. Glaciers form in areas where annual snowfall is greater than the seasonal melt, resulting in a gradual build-up of snow and ice from one season to the next.</p> <p>3. Glaciers increase and decrease in size over long periods of time, depending on variations in Earth’s climate.</p> <p>4. Glaciers move slowly, spreading outward across a region or moving down a slope.</p>	<p>1. Illustrate and describe in writing the composition of the three major layers of the earth’s interior.</p> <p>2. Explain how Earth’s internal energy is transferred to move tectonic plates.</p> <p>3. Demonstrate the processes of folding and faulting of the earth’s crust.</p> <p>4. Correlate common geological features/events (deep sea trenches, mountains, earthquakes, volcanoes) with the location of plate boundaries.</p> <p>5. Examine and compare geological features that result from constructive forces shaping the surface of the earth over time (e.g., mountains, ridges, volcanoes) with geological features that result from destructive forces shaping the surface of the earth over time.</p> <p>6. Analyze and interpret data about the location, frequency and intensity of earthquakes.</p> <p>7. Compare and contrast the major agents of erosion and deposition of sediments: running water, moving ice, wave action, wind and mass movement due to gravity.</p> <p>8. Investigate and determine how glaciers form and affect the earth’s surface as they change over time.</p> <p>9. Distinguish between weathering and erosion.</p> <p>10. Observe and report on the geological events that are responsible for having shaped Connecticut’s landscape.</p>	<p>C18. Describe how folded and faulted rock layers provide evidence of gradual up and down motion of the earth’s crust.</p> <p>C19. Explain how glaciation, weathering and erosion create and shape valleys and floodplains.</p> <p>C20. Explain how the boundaries of tectonic plates can be inferred from the location of earthquakes and volcanoes.</p>	<p>Inside the Earth (represent structure of the Earth with a hard-boiled egg. Use supporting text, label diagram)</p> <p>Graham Cracker Plate Tectonics Simulation – folding and spreading</p> <p>TECTONIC PLATES, EARTHQUAKES AND VOLCANOES (online) Lesson</p> <p>Mystery of the Far Flung Fossils: Investigating Plate Tectonics</p> <p>Frozen Water Volume Increase Demonstration</p> <p>Lab – How Fast Can it Fizz (text p. 38)</p> <p>Student Demonstrations of Weathering & Erosion Concepts</p>	<p>RESOURCES:</p> <p>Text: Prentice Hall Science Explorer: Earth’s Changing Surface</p> <p>Resource: 75 Easy Earth Science Demonstrations</p> <p>Video: Greatest Discoveries with Bill Nye Earth Science</p> <p>Video: Bill Nye: Crust, mantle, Core</p> <p>Video: Glaciation: Ice Shapes the Land</p> <p>Video: Exotic Terrane: Plate Tectonics</p> <p>Video: Faulting and Folding</p> <p>Video: Amazing Earth</p> <p>Powerpoints – Teacher created Grade 6 Science Folder</p> <p>Website – Connecticut Geology</p> <p>ASSESSMENTS:</p> <p>Plate Boundary Quiz</p> <p>Weathering, Erosion & Deposition Demonstration Rubric</p>

	<p>5. Moving glaciers reshape the land beneath them by scraping, carving, transporting and depositing soil and rock.</p> <p>6. Glacial landforms have identifiable shapes. Connecticut’s landscape provides many examples of glacial movement and deposition.</p> <p>7. Weathering and erosion work together as destructive natural forces. Both are forces that break down rock into small particles called sediments.</p> <p>8. Weathering is caused by physical, chemical or biological means. Rock properties, such as hardness, porosity or mineral content, influence susceptibility to weathering.</p> <p>9. Erosion loosens and transports sediment formed by weathering. Moving water and wind cause changes to existing landforms and create new landforms such as valleys, floodplains, plateaus, canyons, caves or dunes.</p> <p>KEY CONCEPT WORDS: erosion, weathering, glacier, valley, floodplain, core, mantle, folds, fault/fault line, continent, tectonic plate, plate boundary, convection, mountains, volcano, earthquake</p>				
--	---	--	--	--	--